

IMB Meeting – Executive Summary

July 2023

















Dedication

For their invaluable contributions to world health by vaccinating children and delivering other health services to their communities, the Global Polio Eradication Initiative dedicates this review to frontline workers, and particularly those workers who have lost their lives.

The review is also dedicated to children, adolescents, and adults affected by polio and to the polio-affected advocates who have used their voice and experience to play a key role in the eradication effort.

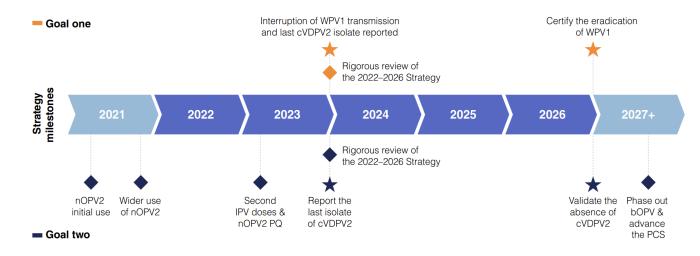
Thank you.





Rigorous review of the 2022–2026 Strategy

- GPEI Polio Eradication Strategy 2022–2026 set 2023 as
 the target year to interrupt Goal 1 all remaining wild
 poliovirus type 1 (WPV1), and Goal 2 circulating
 vaccine-derived poliovirus type 2 (cVDPV2) transmission,
 with the aim to reach eradication by 2026
- The Strategy committed GPEI to undertake a rigorous independent programme review by the end of 2023 to assess progress towards interruption & eradication Goals
- This independent assessment will be conducted by the IMB as part of its annual review of the programme, and will be geared specifically to:
 - Evaluate progress towards the interruption and eradication Goals 1 and 2 of the Polio Eradication Strategy 2022-2026
 - Assess whether the strategic plan is a) on track, b) at risk, c) off track or d) missed
 - Identify areas where corrective action plans are required and evaluate the quality, implementation, and impact of corrective action plans



Note:

- The Strategy milestones, set in 2021, assumed that there would have to be a fixed three-year period of non-detection after interruption of transmission to certify eradication.
- In June 2022, the GCC recommended that for WPV1 (Goal 1) the fixed three-year period of non-detection be replaced with a flexible period of **not less than two**years that takes into account the quality of surveillance in endemic countries, the risk in sub-population groups poorly or not reached by surveillance, and other data such as molecular analysis of the last chains of transmission
- The timeline to validate the absence of cVDPV2 (Goal 2) is still under consideration by the GCC. A decision is expected later this year.



Introduction

Progress towards interrupting polio transmission by end-2023



Objective

Interrupt all wild poliovirus by end of 2023

Global eradication of all wild poliovirus certified by 2026

 cVDPV2 interruption by end of 2023

 Absence of cVDPV2 by 2026

Overview

- Endemic transmission is restricted to Southern KP in Pakistan and the Eastern Region of Afghanistan
- Number of transmission chains is significantly reduced
- Both remaining WPV1 transmission chains have survived the 2022– 2023 low season
- Number of AFP cases, transmission chains, and infected districts is reducing
- Increasing concentration of the virus – 84% of cases in the most consequential geographies* (MCG)
- 'Beyond standard' responses planned or under implementation in the MCGs

Current state

- One case and ten ES+ detections in Pakistan in 2023. Historic reservoirs no longer endemic
- Continuing transmission in eastern
 Afghanistan (5 cases) and a recent ES
 positive in Kandahar
- Cross-border transmissions detected
- No agreement to conduct house-to-house in the south means Afghanistan faces significant risks
- Successful nOPV2 rollout has seen a reduction in new vaccine-derived emergences
- Reducing trend of cVDPV2 cases and environmental detections
- Enhanced geographic scope of resopnse but timeliness and quality of response remain a challenge
- Effectiveness of intensive response in the MCGs will be key for interruption of transmission



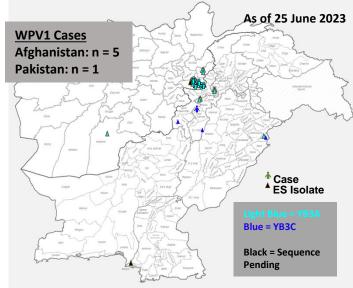
Goal 1

Goal 2



Goal One: Endemic transmission is increasingly restricted, but the virus has survived the low season





Afghanistan and Pakistan form one epidemiological block

- Endemic transmission has been restricted to Southern KP in Pakistan and the Eastern Region of Afghanistan, with the number of transmission chains reduced from 19 to two. ES detection of YB3A exportation from East Region to Pakistan beginning in 2023.
- To date in 2023 there has been one case and ten ES positives in Pakistan; five cases and 29 ES positives in Afghanistan. There have been no WPV1 detections from the eastern Africa importation since August 2022 in Mozambique.
- The principal aim in endemic areas remains reaching persistently missed children in Eastern Afghanistan and Southern KP.
- The historic reservoirs in Pakistan are no longer endemic, but there has been a recent positive environmental sample in the South region of Afghanistan as well as Peshawar and Karachi.
- The ES positive detected in Kandahar where there are a high number of susceptible children given the absence of authorized house-to-house campaigns presents a major risk.
- As the high transmission season progresses and the risk of reestablished transmission increases, rapid and high-quality outbreak response is required.

GPEI is fully aligned with the June 2023 TAG analysis and recommendations on Goal One





Afghanistan: quality improving, but pockets of persistently missed children remain; major risk in the South

Overview

- Increase in WPV1 cases and detections through low transmission season compared to 2021 and 2022
- Programme recently achieving high-quality SIAs (90% LQAS), but the threshold will have to be increased and improvements need to be sustained to reach interruption
- ES+ detection in Kandahar in the South region is a public health emergency with an important risk of a large outbreak
- Absence of authorization for house-to-house campaigns in the South means Afghanistan faces important risks
- Health sector exempt from decree on female workers

Progress

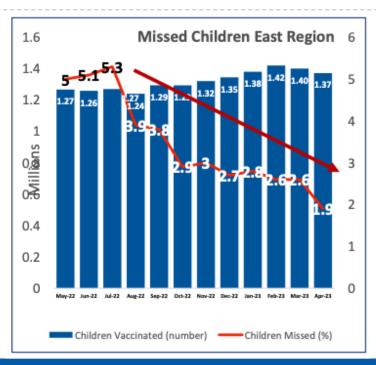
- Recent improvements in campaign quality
- Numbers of missed children are decreasing, and population immunity is improving

Risks

- Setbacks in Afghanistan pose risks to programme in Pakistan
- Potential pockets of susceptibility in children 5-10 years old due to history of inaccessibility (East Region)
- Conduct of timely, high-quality outbreak response is required to prevent reestablishment of transmission (South Region)
- Large susceptible population due to limitations of site-to-site campaigns; ongoing challenges in securing house to house campaigns as planned (South Region)

Program response/key activities (from June 2023 TAG recommendations)

- 1. Improve AFP and ES surveillance through optimized networks, improved record keeping and monitoring and evaluating surveillance quality
- 2. Interrupt endemic transmission in East Region via full access, house-to-house, and further increased campaign quality
- 3. Implement high-quality SIAs
- 4. Use social mapping and listening to ensure all communities are effectively engaged in SIAs
- 5. Trial and systematically evaluate use of different pluses to optimize campaign quality
- 6. Continue intense programme monitoring





Pakistan: Decrease in detections but remaining unreached children remain a challenge

Overview

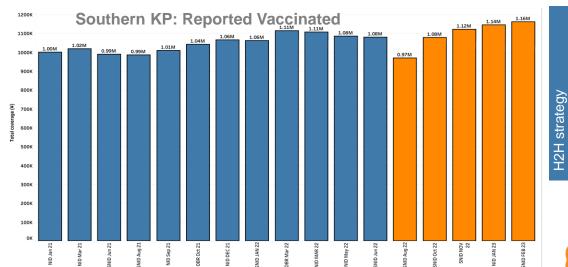
- Decrease in WPV1 cases and detections through low transmission season
- The most direct path to interrupting endemic transmission remains multiple high quality ('3+2' enhanced H2H) campaigns
- These will be complemented by additional alternate approaches (site to site, pluses, SBC) to access to the remaining unreached children
- Strong national Environmental Surveillance system, including 9 regular sites, 68 ad hoc sites, and 5 temporary sites in Southern KP

Southern KP

- **Progress**
 - Southern KP action plan operational and showing positive impact
 - Approximately 160,000 more children are being vaccinated compared with last year
- Risks
 - The programme continues to miss a large number of children, likely more than indicated by administrative data
 - Extremely challenging context, including economic crisis, elections, and insecurity

Program response/key activities (from June 2023 TAG recommendations)

- Implement Southern KP Action Plan
- Vigorously pursue core strategy
- Implement SIAs as scheduled in Southern KP 3.
- Priority focus on 69 UCs and "Reaching the Unreached" plan
- 5. Restart mass immunization in Upper South Waziristan
- 6. Resume robust monitoring from July SIA, especially in 69 UCs
- Understand and address clustered refusals and boycotts
- Evaluate pluses and integrated services 8.
- Continue developing social listening to inform boycott resolution; develop and test boycott prevention interventions
- Bolster South KP Hub and programme management









Africa WPV1 Importation: no detections since August 2022

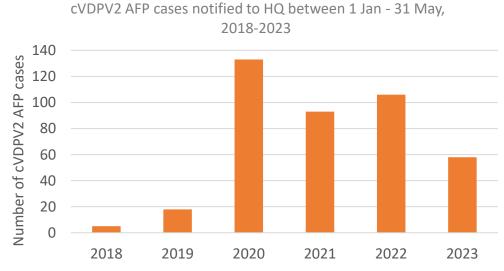
- Since the detection of WPV1 in AFRO in February 2022, an effective coordinated response across Malawi, Mozambique, Tanzania, Zambia and Zimbabwe has been implemented
- 21 rounds of campaigns have been conducted across this block, and the response has seen SIA quality improve with each round across Malawi, Mozambique, Tanzania, and Zambia
- AFRO has had ten months without detected transmission (last case: Mozambique, 10 August 2022)
- Outbreak Response Assessments (OBRA) for each country have provided guidance for the responses, strengthen surveillance plans, and ongoing monitoring and advocacy
- Outbreaks in Malawi and Mozambique will be reviewed by the Africa Regional Certification Commission in July. A further round of OBRAs is planned for Q3 2023 when it is hoped these outbreaks can be declared closed

Malawi	Mozambique	Tanzania	Zambia	Zimbabwe
 17M doses administered in 2022-2023 2.9M, 3.5M, and 3.6M children vaccinated Rounds 2-4 4 bOPV rounds completed, 1 planned (Aug 2023) Percent of LQAS lots passed increased from 17% in round 1 to 72% in round 4 	 44M doses administered in 2022-2023 3.5M, 7.5M, and 8.6M children vaccinated Rounds 2-4 6 bOPV rounds completed, 1 planned (Aug 2023) Percent of LQAS lots passed increased from 54% in round 2 to 92% in round 4 	 45M doses administered in 2022-2023 12.4M, 15M and 17.8M children vaccinated Rounds 2-4 4 bOPV rounds completed Percent of LQAS lots passed increased from 64% in round 2 to 98% in round 4 	 17M doses administered in 2022-2023 4M, 5M and 17.8M children vaccinated Rounds 2-4 4 bOPV rounds completed Percent of LQAS lots passed increased from 32% in round 1 to 83% in round 4 	 7M doses administered in 2022-2023 2M, 2M and 2M children vaccinated Rounds 1-3 3 bOPV rounds completed, 1 planned (Sept 2023) Percent of LQAS lots passed increased from 57% in round 1 to 67% in round 2 and declined to 51% in round 3



global eradication initiative

Goal Two: Positive trends on virus burden, but the effectiveness of the response in the *most consequential geographies* will determine when interruption will be reached



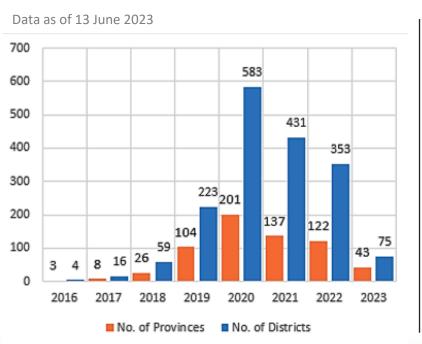
Note: Year-to-date figures are used to account for the significant lag between onset and notification

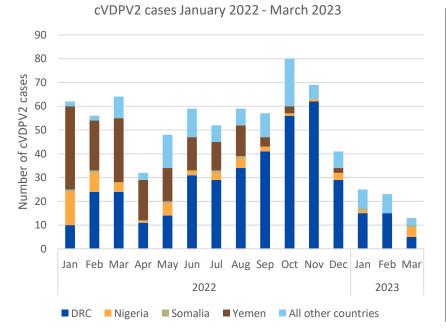
- cVDPV2 cases and circulating emergences are declining, and cases are increasingly geographically concentrated
- The majority of outbreaks are stopped after two quality campaigns, and the trend of fewer but bigger campaigns continues into 2023
- Timeliness and campaign quality remain important challenges, as does implementation capacity, especially where there is cocirculation of cVDPV1 & 2, as seen in DR Congo
- The most consequential geographies of eastern DR Congo, northern Nigeria, central Somalia and North Yemen have been identified as the drivers of continued cVDPV2 transmission. Inaccessibility, security risks, political instability, logistics and other challenges hamper the response and tailored solutions to the situation district by district are required
- Improved nOPV2 supply since Q2 2023 has enabled a more comprehensive response but the situation remains fragile due to reliance on a single supplier

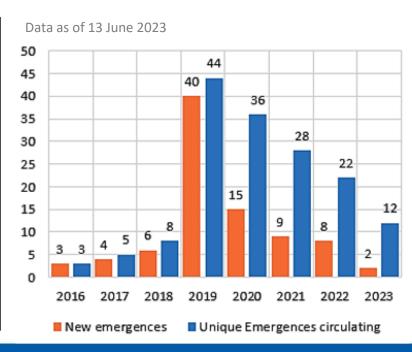


Positive trends on virus burden

- The number of cases is declining, with year-to-date comparisons, used to account for the significant lag between onset and notification, showing that 2023 case numbers are slightly over 50% of the case numbers from the same time period last year
- Increasing geographic concentration of cases, with:
 - Number of provinces and districts reducing year on year
 - cVDPV2 cases in DRC, Nigeria, Yemen, and Somalia have accounted for over 84% of global cases since January 2022
- There are also decreasing numbers of new and circulating emergences

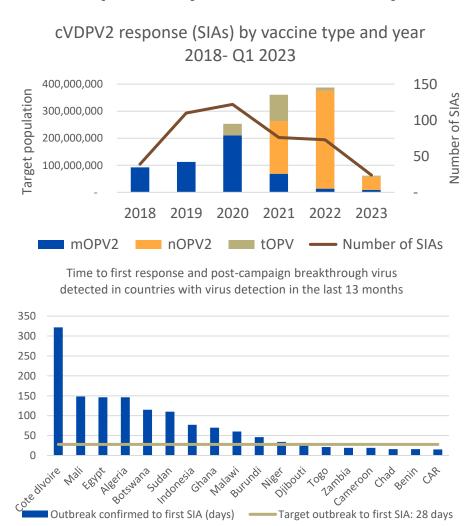








Recent trends towards fewer bigger campaigns, but timeliness and quality remain key



- There has been a trend toward fewer but bigger campaigns starting in 2021
- OPV supply disruption contributed to reduction in campaign activity in the first quarter of the year
- A big increase planned for the rest of the year with 234Mds of nOPV2 approved for campaigns through to Sept, with further approvals for Q4 pending
- Vaccine supply has enabled the campaign response needs to get bigger, but they will also have to get faster and better in the last mile
- Timeliness of response is a challenge at each stage from onset to notification; for national and GPEI decision making; and campaign planning and implementation
- Over the past 18 months 39% of campaigns met the target of implementing the first campaign within 28 days outbreak confirmation

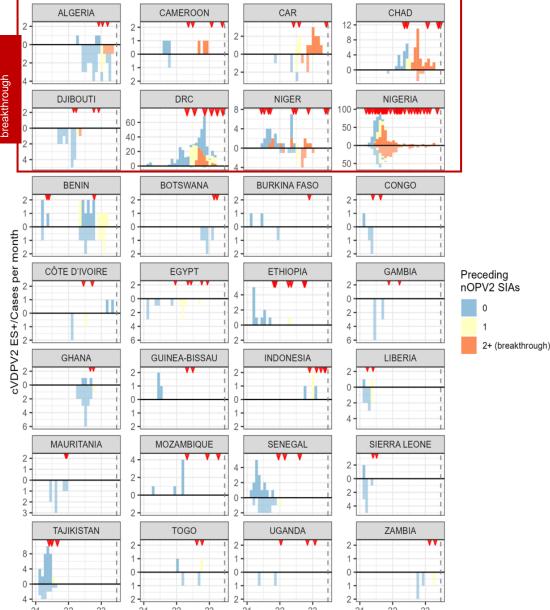


An effective campaign response does stop the majority of outbreaks

- The '2+1' campaign strategy has stopped outbreaks (no breakthrough transmission) in 20/28 countries
- This strategy has not worked in the most consequential geographies and countries that suffer from repeated importations from these geographies
- In these countries a more intensified tailored approach is required

Figure 1. cVDPV2 ES+/Cases per Month and Preceding nOPV2 SIAs



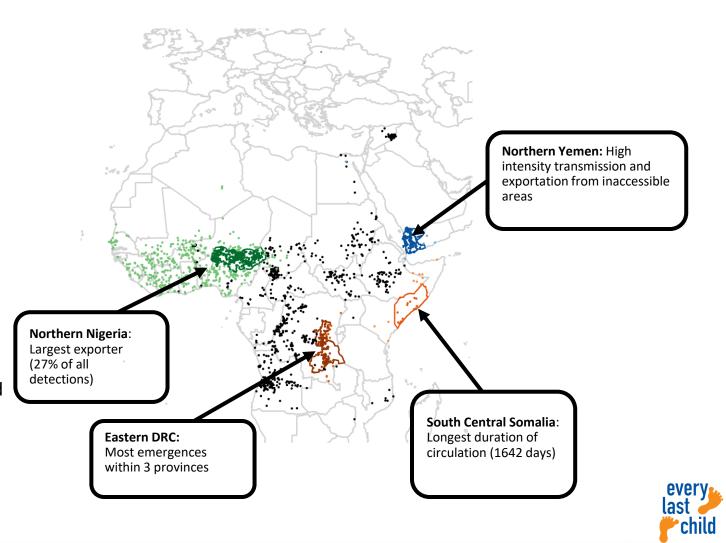






Four *Most Consequential Geographies* driving continued cVDPV2 transmission

- In 2022, a GPEI analysis of transmission patterns determined that four sub-national geographies are driving the continued spread of cVDPV2
- These most consequential geographies feature some of the highest proportions of zero-dose children (children who are either un- or undervaccinated). They are also affected by broader complex humanitarian emergencies, including ongoing security and access concerns
- To bring an end to transmission from these "most consequential geographies" requires an intense vaccine response designed to resolve the specific reasons campaigns persistently miss vaccinating children in these areas, as well as integration to address broader community needs in marginalized populations and increase vaccine acceptance
- As the epidemiology evolves, targeting will also need to evolve for example narrowing down from Northern Nigeria to Northwestern Nigeria





Eastern DR Congo: campaign response needs to better adapt to the evolving security and humanitarian crises

Overview	Programmatic Response and Activities
 Country was classified for an IASC grade 3 humanitarian emergency response due to the worsening situation in eastern DRC on 20 June 2023 Insecurity and armed conflict in eastern DRC has led to large numbers of internally displaced people Presidential, parliamentary and provincial elections are scheduled for 20 December 2023 Quality of campaigns seriously hampered by this complex environment in addition to weak logistics and inaccessibility Limited implementation capacity further weakened by the cVDPV1 co-circulation and the need to do nOPV and bOPV campaigns at least four weeks apart 	 nOPV2 and bOPV campaigns completed in January, March, and June 2023 Recently approved activities in the consequential geographies of Maniema, Tanganyika, and Haut Lomami Further bOPV campaign planned for August In 2022: 3 nOPV2 activities completed; 22M total doses administered; between 7M and 7.5M children vaccinated each round In 2023 (through June 30): 3 nOPV2 and 1 bOPV activities completed; 30M total doses administered; between 0.6M and 17M children vaccinated each round



Northern Nigeria: improving quality, but pockets of

persistently missed children remain **Overview**

Case numbers have seen significant declines over the past

- 18 months and the quality of campaigns has improved Continued detections from ES in Zamfara and Sokoto
- indicate pockets of persistent transmission
- Access issues remain a key risk with inaccessibility expanding in the Northwest

Accessibility status and cVDPV2 cases in Zamfara



- >3.9M children in 31,000 settlements are not reachable
- Insurgency, banditry, and kidnapping attacks in both Zamfara and Sokoto states means specialized strategies are required to reach these children

Programmatic Response and Activities

- Two sub-national campaign conducted this year
- Recently approved campaigns in the consequential geographies of Sokota, Zamfara and Kebbi
- RI intensification combined with in between round activities, including integration with CMAM
- fIPV/nOPV2/Polio plus activities were conducted in NW Nigeria in May 2023, and an additional NID with nOPV2 is planned
- Supplemental activities continue: DOPV scale up, VTS tracking of teams in insecure areas, female supervisors in areas with FFM, and deployment of community informants in inaccessible areas
- Operational challenges are being addressed head on through strong local partnerships
- In 2022: 12 nOPV2 activities completed; 228M total doses administered; up to 36M children vaccinated each round (range of 0.2M to 36M)
- In 2023 (through June 30): 4 nOPV2 activities completed; 60M total doses administered; up to 36M children vaccinated each round (range of 0.1M to 36M)



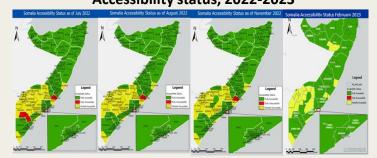


Central Somalia: increased access is helping the campaign response

Overview

- Country was classified for an IASC grade 3 humanitarian emergency response due to the drought and famine on 11 August 2022
- Transmission has been low level and concentrated in southcentral areas under control of Al-Shabab
- For the first time, there are no fully inaccessible districts
- There are around 90K expected children remaining inaccessible (reduced to 90k in March 2023 from 364K in Jan 2022)

 Accessibility status, 2022-2023



- Trends are moving in the right direction for numbers of under 5 children reached in inaccessible districts
- There are ongoing challenges related to, infrastructure, and weak health systems that further affect quality

Programmatic Response and Activities

- Recently concluded SNID in SC Somalia with nOPV2
- Focus on consequential geography of south central now that access has improved.
- Operations in Somaliland resuming after the government there lifted its opposition to campaigns.
- Establishment of the Somalia Support Unit
- Systems strengthening activities being implemented
- In 2022: 5 mOPV2 and 1 tOPV activities completed; 14M total doses administered; between 1.9M to 4.3M children vaccinated each round
- In 2023 (through June 30): 2 nOPV2 and 1 tOPV activities completed; 9M total doses administered; between 2.6M and 3.5M children vaccinated each round





North Yemen: withdrawal of authorization for vaccination campaigns by the authorities in Sanaa

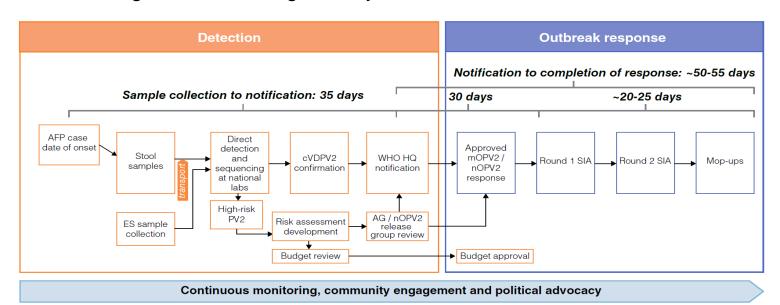
Overview	Programmatic Response and Activities	
Yemen is listed as a grade 3 health emergency	An integrated polio-child health response was planned but is autrently payed after not being permitted by authorities.	
 Prevention of polio outbreaks and transmission is one of the five of objectives of the emergency health plan However, there is ongoing anti-vaccine sentiment from 	 currently paused after not being permitted by authorities Advocacy efforts, through multiple channels, to convince authorities in North Yemen to resume the vaccination response 	
 No campaign activities have occurred in the North since the outbreak began 	 An SBC/comms group was developed a plan to address anti- vaccine narrative 	
 There is continued risk of spillover from northern to southern governorates 	 The Ministry of Health in South Yemen conducting activities to encounter anti-vaccine propaganda 	
governorates	Latest campaign conducted in South Yemen in March 2023	
	 In 2022: 3 tOPV activities completed; 8M total doses administered; between 1.9M to 3.9M children vaccinated each round 	
	 In 2023 (through June 30): 1 tOPV activity completed; 1.3M total doses administered; 1.3M children vaccinated 	





Surveillance: continued challenges with timeliness of detection

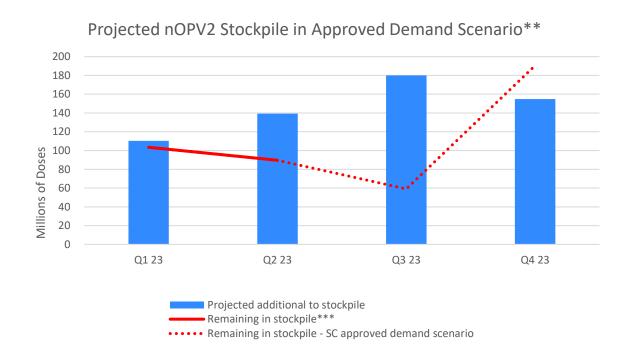
- The Global Polio Surveillance Action Plan 2022-2024 aims to shorten the time between detection and response, with ≥80% of polioviruses confirmed and sequenced within 35 days of onset of the case (or sample collection for ES) currently no countries with a cVDPV2 outbreak are able to make this target
- Logistics challenges for sample transportation are still the biggest contributor to delays. Understanding and solving
 the context-specific reasons why countries are failing to meet the target is key
- In addition to logistics activities are underway to improve surveillance timeliness in terms of expanding sequencing capacities in key laboratories, fast tracking new direct detection methodology, and building surge capacity
- There remain surveillance gaps at sub-national level and environmental site sensitivity has not improved postpandemic, creating a risk of missed transmission.



AFP = acute flaccid paralysis; AG = Advisory Group; cVDPV2 = circulating vaccine-derived poliovirus type 2; ES = environmental surveillance; HQ = headquarters; mOPV2 = monovalent oral polio vaccine type 2; nOPV2 = novel oral polio vaccine type 2; PV2 = poliovirus type 2; SIA = supplementary immunization activity.



Vaccines: nOPV2 has been successfully rolled out, and supply constraints improved



- nOPV2 first used for outbreak response in March 2021 since then approximately 670m doses of nOPV2 have been administered across 31 countries
- nOPV2 is safe, effective, and has a lower risk of seeding new outbreaks compared to mOPV2
- A supply disruption in Q1 2023 led to delays in outbreak response, but corrective actions taken by the programme helped re-establish supply for Q2 2023 campaigns
- Anticipated 2023 supply is forecast to meet programme demands
- However, the supply situation remains fragile as the programme remains reliant on a single nOPV2 supplier
- To mitigate this risk work is being undertaken to a) bring online a second supplier; b) establish an nOPV2 buffer stock; and c) establish a physical vaccine stockpile



^{*}Data as-of June 26, 2023 – best case supply scenario has been adjusted to account for typical supply disruptions

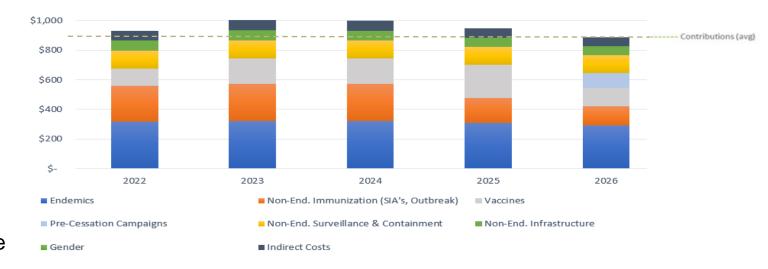
^{**}Vaccine demand for outbreak response will continue to evolve

^{***}Q1-Q2 reflects actual usage which was adjusted in response to supply disruption



Financing: increasing demands from outbreak response

- The five-year budget for the 2022-2026
 Strategy was costed at USD 4.8bn.
- Current funding pledges stand at USD 3.3bn, leaving a current funding gap of USD 1.5bn.
- GPEI's funding projections estimate that USD 1bn could be raised in additional contributions by 2026.
- The average annual budget for the Strategy is USD 960m, and the programme is spending at a rate of a little under USD 900m per year.



- The WPV1 importation and the cVDPV1 outbreaks in Africa put considerable stress on the outbreak budget which was costed to cover cVDPV2 response and was already over stretched by the scale of the demand.
- The 2022 outbreak budget was increased from USD 156m to USD 360m to cover the additional campaign demands. The campaign budgets achieved an implementation rate of 90%.
- A similar pattern has been seen in 2023 with the USD 238m outbreak budget increased to USD 366m by June of this year with further demand expected.
- Preventative campaigns and vaccine stockpile budgets have been deprioritized to cover these costs, in addition to underspends elsewhere in the programme being re-invested in outbreak response.
- To date the WPV1/cVDPV1 response has taken up 37% of the outbreak budget





Conclusions

Goal One

- Continued low-level transmission in Southern KP and intensified transmission in Nangarhar remain significant risks, especially in the southern shared Pakistan-Afghanistan corridors with important immunity gaps.
- As the high-transmission season progresses, the risk of outbreaks is rising both within the country and across the border; the programme must respond rapidly and effectively to outbreaks as they occur.
- The recent detection in Kandahar in particular underlines a major risk of re-established transmission and an explosive outbreak if not effectively addressed.
- Both programmes have the capacity to stop remaining endemic transmission
- The programme in Pakistan has shown it has the leadership support, tools, knowledge, and resources to stop outbreaks efficiently.
- · Key risks:
 - Continued transmission in the endemic zones
 - Exportation of the virus outside the endemic zones, with the potential to reinfect and re-establish transmission within the historical reservoirs
 - High number of susceptible children due to use of site to site rather than house to house response in the South
- Across the endemics, there is a need to:
 - Double down on reaching 300,000+ persistently missed children with regular and integrated SIAs in East Afghanistan and South KP
 - Ensure aggressive high-quality response to rapidly stop any outbreak
 - Enhance the current data-driven approach
 - Better integrate SBC activities

Goal Two

- Countries responding to cVDPV outbreaks face multiple challenges in implementing effective outbreak responses.
- cVDPV2 burden may be declining and is increasingly geographically concentrated.
- The majority of outbreaks are stopped after two quality campaigns, but timeliness and campaign quality remain important challenges.
- Recent years have seen the implementation of large-scale campaigns with large target populations, but better and faster responses are still needed.
- Surveillance performance and sensitivity are mostly restored to prepandemic levels; focus now on targeted subnational strengthening and improved timeliness of detection.
- Successful nOPV2 rollout has enabled a more comprehensive response but the supply situation remains fragile; nOPV2 appears as safe and effective as mOPV2, but more genetically stable.
- The most consequential geographies of eastern DR Congo, northern Nigeria, central Somalia and North Yemen drive continued transmission; there are additional outbreaks not being responded to (e.g., Yemen, Eritrea), and these pose a risk to the programme.
- Growing susceptibility to type 1 and type 2 poses a major risk.

